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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/004,193	10/31/2001	Blaine D. Gaither	10017480 -1	5755

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HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER

CHACE, CHRISTIAN

ART UNIT	PAPER NUMBER
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2187

DATE MAILED: 02/25/2004

3

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/004,193

**Applicant(s)**

GAITHER ET AL.

**Examiner**

Christian P. Chace

**Art Unit**

2187

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-9 is/are allowed.
- 6) ☒ Claim(s) 1-5, 10 and 11 is/are rejected.
- 7) ☒ Claim(s) 6 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on 25 February 2002 was considered by the examiner, and entered as paper number two. A signed and initialed copy is attached hereto.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Talyansky et al (US Patent 6,678,794).

With respect to independent claim 1, a method of limiting dirty entries in a cache memory is disclosed in the abstract as a technique for cache management which provides a periodic flush to modified buffers. A buffer is an "entry," and, "modified" is interpreted as "dirty," as column 1, lines 36-38 disclose.

"Determining" the number of dirty entries in the cache memory is inherent in the disclosure, in column 3, lines 39-41, which recites that a process is responsive to a number of dirty buffers in the cache. In order for a process to be responsive to the number of dirty buffers, that number, inherently, must be determined.

Evicting, or copying to main memory, as defined at page 2, line 15 of the instant specification, at least one dirty entry from the cache memory is disclosed in column 3, lines 33-35, as flushing dirty buffers. Flushing is defined in column 1, lines 65-67, as writing data back to main memory, in this case the disk.

Proceeding with the eviction when the number of dirty entries exceeds a predetermined threshold is disclosed in column 3, lines 39-41 as being responsive to a number (threshold) of dirty buffers in the cache.

With respect to claim 2, evicting all dirty entries from the cache memory when the number of dirty entries exceeds a predetermined threshold is disclosed in column 3, lines 33-34 as flushing [all] dirty buffers, wherein fresh buffers are excluded from the flush procedure.

With respect to claim 3, varying the threshold is disclosed in column 3, lines 63-65 as dynamically adapting the threshold.

With respect to claim 4, setting the predetermined threshold to a "fixed value" is disclosed in column 6, line 46 as "preferably" dynamically adapted, meaning it does not have to be dynamically adapted – it may also be "fixed." In addition, examiner notes that even a dynamically adjusted threshold is "fixed," at least until it is adjusted again.

With respect to claim 5, setting the predetermined threshold by software is disclosed in column 3, line 66 as a software product.

With respect to independent claim 10, a counter is disclosed in column 6, line 2. Indicating a total number of modified lines (buffers) in the cache memory system is disclosed in column 3, lines 33-41. Examiner notes that in order to obtain a total

number of anything, including modified lines, or buffers, each individual one must be counted. A counter is anything that counts. Therefore, inherently, a counter must be used to count anything, including modified lines.

Claim 11 is rejected under 35 U.S.C. 102(e) as being anticipated by Steely, Jr. et al (US Patent 6,493,801).

With respect to independent claim 11, a storage area that indicates whether an entry has been transferred from a cache hierarchy other than the first hierarchy is disclosed in column 7, lines 45-50 as an owner field, which identifies the "agent (e.g., processor" having the most current version of a data item, or entry. Each processor is associated with its own hierarchy as plainly seen in figure 2, P0, P1, etc., for example, so, by identifying the processor, the respective hierarchy is inherently identified as well. The storage area is DIR 300, as discussed in column 7 with respect to figure 3.

***Allowable Subject Matter***

Claims 7-9 are allowed.

Claims 6 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christian P. Chace whose telephone number is 703.306.5903. The examiner can normally be reached on 9-4-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks can be reached on 703.308.1756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'C. P. Chace', followed by a long horizontal line extending to the right.

Christian P. Chace